IN THE SPECIFICATION:

Please replace paragraph number [0005] with the following rewritten paragraph:

[0005] A major problem in the manufacture of memory dice and other semiconductor devices using photolithography is that the periphery region and the array region of the reticle have their largest process windows under different illumination conditions. This problem is particularly exacerbated when the feature sizes to be formed on the photoresist are small, such as around on the order of one-half of the wavelength of the light source ~~used~~ used, or less. A typical reticle pattern of reticle 200 comprises an array region 204 and a peripheral region 202 as shown in FIG. 2A. FIG. 2B illustrates a view of a single array region 204 surrounded by the peripheral region 202. Again referring to FIGs. 2A and 2B, the array region 204 and the peripheral region 202 of reticle 200 have different patterns. For instance, the array region 204 may contain a periodic pattern with particular dimensions and the peripheral region 202 may contain a different pattern having a smaller or larger dimension, possibly a different periodic pattern, or even a ~~non-~~nonperiodic pattern.

Please replace paragraph number [0006] with the following rewritten paragraph:

[0006] In conventional photolithography, ~~the reticle having~~ the peripheral pattern and the array pattern of the reticle are exposed to the illumination source at the same time. However, the optimal illumination conditions for the array region and the peripheral region are not identical. The term "illumination condition" as used herein should be understood to include the distribution of angles of light used to irradiate the reticle and the total intensities of the light in those angles. A relatively tightly spaced pattern characteristic of the array region typically requires illumination by a circular annulus of light at a fairly steep incident angle. A relatively sparse pattern characteristic of the peripheral region typically has its optimal illumination conditions when using a single plane wave of incident light. Thus, each region of the reticle has particular illumination conditions such as depth of focus, dose and angle of incident light, among others, which have different optimal values for the array and the peripheral region. Therefore, if

the illumination conditions are optimized for the array region, the illumination conditions for the peripheral region are ~~sub-~~suboptimal and vice versa. U.S. Patent 5,245,470 to Keum attempts to overcome some of the problems with producing patterns using photolithography.

Please replace paragraph number **[0007]** with the following rewritten paragraph:

[0007] A possible solution to this problem is to use more than one reticle, as is commonly known in the art, and sometimes used in the fabrication of semiconductor devices. However, the use of dual reticles suffers from two main deficiencies. First, it adds the additional cost of manufacturing or buying a second reticle. Second, the use of more than one reticle decreases the process throughput by requiring the changing out of the first reticle for the second reticle and often times necessitating ~~re-~~recalibration of the photolithography system. Third, the use of more than one reticle also causes problems with overlay errors between the two reticles.

Please replace paragraph number **[0009]** with the following rewritten paragraph:

[0009] The present invention, in a number of embodiments, includes polarized reticles, methods of manufacturing the polarized reticles, photolithography systems utilizing such polarized reticles, and methods of using the polarized reticles to produce a ~~pattern~~ patterned image on a photoresist. By using the polarized reticles of the present invention, a single reticle having a plurality of patterned regions may be exposed to light under optimum illumination conditions for each particular region. The present invention may be used in photolithographic processing for fabrication of semiconductor devices, liquid crystal display elements, thin-film magnetic heads, reticles, and for many other applications that require accurate photolithographic imaging.

Please replace paragraph number **[0025]** with the following rewritten paragraph:

[0025] As illustrated in FIG. 3A, polarized reticle 300 may be comprised of a plurality of peripheral regions 302 and a plurality of array regions 304. Each array region 304 is generally surrounded by the peripheral region 302. The array region 304 contains a pattern different than a

pattern of the peripheral region 302. The pattern contained within the array region 304 may, for example, have larger or smaller feature sizes, be a pattern having a different periodicity, or both, than the pattern contained within the peripheral region 302. The pattern contained within array region 304 may also be a ~~non-~~nonperiodic pattern that is different than the pattern contained within the peripheral region 302. The dimensions of the polarized reticle 300 may exhibit dimensions common to reticles used in the semiconductor fabrication industry, such as approximately 6 inches by approximately 6 inches. Referring to FIG. 3B, the width (W) of the peripheral region 302 may be approximately 1/10 of an inch. The array region 304 may have dimensions approximately ½ (L_1) inches by 1 (L_2) inches with the array region 304 generally surrounded by the peripheral region 302. However, the above mentioned dimensions and pattern are merely illustrative and are not meant to limit the present invention. The present invention embraces any polarized reticle comprised of at least one first patterned region at least partially surrounded by at least one second patterned region, wherein the first patterned region includes a pattern different from the pattern of the second patterned region.

Please replace paragraph number **[0029]** with the following rewritten paragraph:

[0029] Referring to FIG. 4, an exemplary photolithography system 400 using the polarized reticle 300 of the present invention is illustrated. Illumination controller 102 may be controllably coupled to~~-illuminating~~ illumination source 104 for projecting linear polarized light 402. Illumination source 104 may be a laser capable of producing linear polarized light. ~~Illuminating~~Illumination source 104 may also include, for example, a mirror, a lamp, a laser, a light filter, and/or a condenser lens system. The term "light" as used herein is not restricted to visible light, but may also include any form of radiation energy such as photons, laser beams, or X-rays. Half-wave polarization plate 404 is sized and configured to be inserted in the pathway of linear polarized light 402 using a removable or rotatable chuck (not shown). Half-wave polarization plate 404 may be a half-wave polarization plate formed from mica manufactured by Melles Griot. For example, if the polarization direction of the linear polarized light 402 is polarized in the vertical direction (~~i.e.~~i.e., perpendicular to the polarized reticle 300 and

half-wave polarization plate 404), the half-wave polarization plate 404 oriented with its fast or slow optical axis forty-five degrees to the vertical direction will alter the polarization direction of linear polarized light 402 by ninety degrees upon passing therethrough. Such half-wave polarization plates may be either inserted in the pathway of linear polarized light to change its polarization direction by ninety degrees or the half-wave polarization plate 404 may also be in a fixed positioned in the pathway of linear polarized light 402 and rotated to a specific angle relative to the polarization direction of the linear polarized light 402 to change the polarization direction ~~linear~~ of linear polarized light 402.

Please replace paragraph number **[0030]** with the following rewritten paragraph:

[0030] When half-wave polarization plate 404 is configured to be in the pathway of linear polarized light 402, it causes approximately a ninety degree rotation in the polarization direction of linear polarized light 402. Polarized reticle 300, defining a pattern to be projected onto photoresist 110, receives linear polarized light ~~rays~~ 402 directly from ~~illuminating~~ illumination source 104 or from half-wave polarization plate 404 to produce reticle pattern image 406 representative of a selected portion of the pattern of polarized reticle 300. Optionally, polarized reticle 300 may be secured to a hard or soft pellicle to protect polarized reticle 300 from contaminants. Hard pellicles include, for example, glass or polymer fibers.

Please replace paragraph number **[0031]** with the following rewritten paragraph:

[0031] Again with reference to FIG. 4, a projection lens ~~apparatus~~ 108 may receive reticle pattern image 406 from polarized reticle 300. Projection lens ~~apparatus~~ 108 may be, for example, a reduction lens or a combination of lenses and/or mirrors for focusing reticle pattern image 406 onto the surface of photoresist 110 on substrate 112. Typical semiconductor fabrication photolithography involves a four to ten times reduction of the pattern size on polarized reticle 300 for projection onto a target substrate 112. Projection lens ~~apparatus~~ 108 projects reticle pattern image 406 to produce a projected pattern image 408.

Please replace paragraph number **[0032]** with the following rewritten paragraph:

[0032] Projected pattern image 408 may then be irradiated onto photoresist ~~layer~~ 110 on substrate 112. Substrate 112 may be a semiconductor substrate such as single crystal silicon, single crystal gallium arsenide, polysilicon, indium phosphide, a layered bulk semiconductor substrate (such as a silicon on insulator (SOI) substrate as exemplified by a silicon on glass (SOG) or silicon on sapphire (SOS) substrate), a glass (for example, soda-lime glass, borosilicate glass, or quartz) useful for forming reticles, or any other suitable material such as those used in forming liquid crystal displays and thin film magnetic heads. Substrate 112 having photoresist 110 disposed thereon may be supported and held in position on a holding device such as a chuck (not shown) which may be part of, or controlled by, a stepper (not shown), as known in the art.

Please replace paragraph number **[0033]** with the following rewritten paragraph:

[0033] Again with reference to FIG. 4, the operation of photolithography system 400 used in conjunction with polarized reticle 300 will be more fully understood. Illumination controller 102 initiates illumination source 104 to produce linear polarized light 402. Linear polarized light 402 is selectively polarized in a direction generally parallel to the polarization direction of the polarized material 308 or the polarized material 310. Linear polarized light 402 is also selectively polarized in a direction generally orthogonal to the polarization direction of one of the polarized material 308 or the polarized material 310. Thus, when the polarization direction of linear polarized light 402 is generally parallel to the polarization direction of one of the polarized materials on reticle 301, the light is transmitted through it. Conversely, when the polarization direction of linear polarized light 402 is generally orthogonal to the polarization direction of one of the polarized materials on reticle 301, the light is filtered and does not transmit through to reticle 301. The illumination conditions of the linear polarized light 402 such ~~as,~~ as the dose, the depth of focus, incidence angle, among other variables may be optimized for the particular region of the polarized reticle 300 being exposed.

Please replace paragraph number **[0034]** with the following rewritten paragraph:

[0034] For example, linear polarized light 402 having a polarization direction generally orthogonal to the polarization direction of polarized material 308 is irradiated upon polarized reticle 300. Linear polarized light 402 is transmitted through the polarized material 310 and, thus, through array region 304 of polarized reticle 300. The light is not transmitted to a substantial extent through polarized material 308. The reticle pattern image 406 of the array region 304 may then be projected by projection lens ~~apparatus~~ 108 to irradiate photoresist 110 with a projected pattern image 408. A pattern representative of the pattern defined within the array region 304 of polarized reticle 300 is formed on photoresist 110.

Please replace paragraph number **[0035]** with the following rewritten paragraph:

[0035] Following formation of the pattern of array region 304 on photoresist 110, the half-wave polarization plate 404 may be moved in the pathway of the linear polarized light 402 or rotated to the required position if the half-wave polarization plate 404 is already in the pathway of the linear polarized light ~~403~~ 402. Upon linear polarized light 402 passing through half-wave polarization plate 404, the polarization direction of the exiting light is altered by approximately ninety degrees. Thus, now the polarization direction of the linear polarized light 402 is generally orthogonal to the polarization direction of polarized material 310 and generally parallel to the polarization direction of the polarized material 308. Then, linear polarized light 402 is transmitted through the polarized material 308 and, thus, through peripheral region 302 of polarized reticle 300. The light is not transmitted to a substantial extent through polarized material 310. The reticle pattern image 406 of the peripheral region 302 may then be projected by projection lens ~~apparatus~~ 108 to irradiate photoresist 110 with a projected pattern image 408. A pattern representative of the pattern defined within the peripheral region 302 of polarized reticle 300 is formed on photoresist 110. The above description of the operation of photolithography system 400 is merely an example. Alternatively, the peripheral region 302 may be exposed first, followed by insertion or rotation of the half-wave polarization plate 404, and subsequently the exposing of the array region 304.